CONFERENCE ON FORMAL DESCRIPTION TECHNIQUES

by Prof Richard Tenney (USA)*

FORTE’93, the Sixth International Conference on Formal Description Techniques, took place October 26-29 in Cambridge, Massachusetts, U.S.A. The FORTE series of conferences concentrates on formal techniques applicable to complex distributed computer systems. These are mathematically based techniques that are oriented toward describing complex systems. They are frequently used to describe and analyze the methods by which computers communicate.

Ninety-four participants from 16 countries attended. The Conference began with five tutorials, followed by 29 refereed papers, ranging from theoretical to applied. There were two invited speakers: Co/in West (CH) and Alfred Aho (USA), both well known in the field. West’s talk, ”The Challenges Facing Formal Definition Techniques,” is summarized as follows:

For many years, we believed that applications of formal definition techniques would significantly improve the quality of communications protocols and hence the systems that incorporate them. Automated validation and many other protocol analysis techniques require an executable representation of a protocol that may be derived from a formal specification. Recent experience has shown that it is difficult to develop executable models using current special-purpose formal definition languages in a timely and cost-effective manner. In some cases, specifications using formal definition languages have proved to be less effective than other methods of documenting the protocols.

Aho’s talk, ”Conformance and Interoperability Testing,” reviewed research aimed at using formal methods to facilitate conformance and interoperability testing based on generic requirements.

The tutorials also provided much interesting material. We describe them here, to indicate the nature of the field of formal description techniques. The first tutorial, ”On the Semantic Foundations of RSL: a Concurrent, Functional and Imperative Specification Language” by Bolignano (F) and M. Debbi (F), was described as follows:

RSL is a formal, high level, modular, and widely applicable specification language. The original main novelty of RSL is the unified integration of concurrent and functional abstractions. In addition, the language is endowed with imperative constructions. It allows different levels of abstraction; thus, it covers all stages of a development process. The language is formal and rests on secure theoretical foundations.

The next tutorial, ”Formal Methods in Managing Feature Interactions” by E. Jane Cameron (USA) and Yow Jian Lin (USA), covered the following:

The feature-interaction problem is a major roadblock to rapid introduction of new features for the public tele-

*conference chair of FORTE’93

continued on page 6
**IFIP NEWSLETTER**

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Kindly submit material for the Newsletter three months before the publication date.

Please send the following IFIP information directly to the Secretariat: announcements of conferences, workshops, and other meetings; calls for papers; appointments to committees and other positions; and changes of address. The Secretariat is the clearinghouse for all such information; it will forward it to the Newsletter.

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**ESTABLISHING THE IFIP SECRETARY GENERAL**

In December, IFIP’s president, **Prof. Asbjørn Rolstadås (N)**, sent a letter to all General Assembly (GA) representatives. Most of it is quoted below. The letter describes a revised charter for the position of Secretary General, created by the GA in September 1993, and it discusses the engagement of **Mr. Aage Melbye**, GA representative of Denmark and IFIP treasurer, as a paid consultant for six months, to carry out some of the responsibilities of Secretary General and perform other specified tasks. (See page 2 of the December 1993 **IFIP Newsletter** for further information.)

December 17th, 1993

Dear GA representative:

You will recall that the latest IFIP General Assembly (GA) approved appointment of a Secretary General for two years, with an option to review the situation after the first six months.

Based on the discussions at the GA, the Executive Board has revised the job charter to accommodate the need for a stronger focus on the management aspects and to emphasize that the Secretary General will represent an add-on value to our current operation. The charter we have agreed on is as follows:

1. Promote IFIP and its activities in appropriate external spheres of activity where IFIP can benefit from a wider understanding of its work or can contribute resources in line with its mission.

2. Take action to implement, in a timely manner, decisions taken by the General Assembly, Council, and Executive Board, and monitor and report progress.

3. Ensure that initiatives taken by the administrative committees of IFIP are properly coordinated and monitored.

4. Monitor activities managed by IFIP’s technical bodies (Technical Assembly, Technical Committees, and Specialist Groups) to ensure that Standing Orders and other agreed procedures are followed.

5. Manage the commercial aspects of contracts and other formal arrangements between IFIP and its appointed publisher(s) and any other contractors.

6. Foster good communication and seek to improve relationships with IFIP’s Member societies. Encourage potential new Members and assist them with their applications to the Admissions Committee.

7. Take responsibility for the staff and work of the Administrative Secretariat.

8. Take responsibility for the operation, maintenance and development of IFIP’s accounting systems and for the preparation of management reports and information for financial monitoring and control.

[Fund-raising is also envisioned. — Ed.]

The position of Secretary General was announced to all GA representatives in a circular letter of September 21st. The deadline for applications was October 31st. Within the deadline, several applications were received. They were evaluated by a group of Executive Board members, which decided not to appoint a Secretary General at the current time. Instead, one of the applicants was offered a 6-month contract as a management consultant, to carry out some of the tasks of the Secretary General and to focus on two special tasks. This gives the Council more flexibility with respect to planning the future of the Secretary General position and the job charter for such a position, as well as the financial implications.

The consultancy contract was signed with **Aage Melbye**, to start January 1st, 1994. The two special tasks of the consultant are explained by the following two paragraphs quoted from the contract:

"A critical initial responsibility will be a review of IFIP’s administrative procedures and costs, with a view to improving operational efficiency and a reduction in annual costs of not less than 15%. This review will address the operations currently carried out by the Secretariat, its staffing, and its location. The review and consequent recommendations are to be presented to the Council in March 1994. The President will appoint a reference group for this work.

"It is important that the Secretary General represents an added value for IFIP; i.e., focusing on new activities to improve the operation and increase the external understanding of IFIP. This means that we shall plan to maintain the elected positions of Treasurer and Secretary as today, with the exception that the Secretary General will be directly continued on page 4
THE BELGIAN MEMBER OF IFIP: F.A.I.B.—F.B.V.I.

by Paul E. Gennart (B)*

The Belgian member of IFIP, F.A.I.B.—F.B.V.I., was established in 1974 to promote meetings between member societies, to coordinate their activities, to represent them to national and international authorities, and to organize joint activities. F.A.I.B.—F.B.V.I. stands for "Federation des associations informatiques de Belgique" and "Federatie van de Belgische Informatica Verenigingen." This double denomination reflects the bilingual character of Belgium.

One of the main responsibilities of the F.A.I.B.—F.B.V.I. is the representation of Belgium in IFIP. In this respect, it succeeded the SOGESCI (Societe pour l'application des méthodes scientifiques de gestion), the OR Society of Belgium, which is one of the members of our Federation. Prof. Marcel Linsman, a former member of the SOGESCI, was one of the founders of IFIP, in 1960.

Besides the SOGESCI, the other members of the F.A.I.B.—F.B.V.I. are

• The S.I.F.—V.F.I (Societe d'Informatique fondamentale—Vereniging voor Fundamentele Informatica), which has mainly academic members
• The S.A.I.—C.E.T.A.I. (Studiecentrum voor Automatische Informatieverwerking)
• secretary of the F.A.I.B.—F.B.V.I.

The present efforts of the council of our Federation are aimed at a better acceptance of its role in the computer community. A first step in this direction has been publication, since the end of 1991, of a newsletter for our members and representatives in the IFIP TCs. A second one will be to have those representatives more involved in the dissemination of the information they gather from IFIP. A third step has been to solicit aid from the Belgian authorities. We had a satisfactory response for the annual IFIP dues and for partial support of the meeting of the IFIP Council February–March 1994. We would also like to get financial support for the representatives in the TCs, to help them participate in at least one meeting each year. Finally, there has recently been an agreement between the F.A.I.B.—F.B.V.I. and the Belgian weekly newspaper Data News, to give our members an opportunity to communicate with a broader spectrum of readers.

The February–March meeting of the IFIP Council in Brussels will certainly contribute further to establishing better confidence in our Federation in Belgium.

AIMS AND SCOPES OF NEW WORKING GROUPS

Following are the Aims and Scopes of new Working Groups approved by the September 1993 IFIP General Assembly in Tokyo.

WG2.9: Software Requirements Engineering (preliminary)

AIM: To develop a better understanding of —
• the elicitation, specification, analysis, and management of the requirements for large and complex software-intensive systems
• the interpretation and documentation of those requirements so as to permit the developer to construct a system that will satisfy them

SCOPE: All aspects of requirements engineering. Some examples or areas of special interest are —
• formal representation schemes and requirements modeling

WG11.9: Information Technology and Crime

AIM: To facilitate the interchange of research and empirical information on IT-related crime, between the international scientific and investigative communities.

SCOPE:
• study and develop new methods and techniques for the detection and prevention of IT-related crime
• develop and promote a management standard for criminal investigative services
• perform research and identify new research topics in the field of IT-related crime investigations
• provide a forum for the discussion and analysis of issues relating to IT-related crime investigation and intelligence
• provide a reference point for investigative organisations on relevant issues

WG12.5: Knowledge-Oriented Development of Application Programs

continued on page 9
DIFFUSION, TRANSFER, AND IMPLEMENTATION OF INFORMATION TECHNOLOGY

by Ms. Priscilla Fowler (USA)*

When a new IFIP Working Group (WG) on Information and Software Technology Transfer was proposed at the September 1992 IFIP Technical Assembly, the suggestion was made that a working conference be held to determine the level of interest and need. As a result, the International Working Conference on Diffusion, Transfer, and Implementation of Information Technology, sponsored by IFIP’s Technical Committee on Information Systems (TC8), was held near Pittsburgh, Pennsylvania, October 10-13, 1993. It was organized in cooperation with the Software Engineering Institute and the TC on Software Engineering of the Computer Society of the U.S. Institute of Electrical and Electronics Engineers. A total of 89 people participated, and 63 indicated interest in membership if a new WG were to be formed.

Each participant submitted a paper or position statement. Participation was broad, both internationally and in terms of sectors represented (industry, universities, and government). Topics ranged from academia/industry collaboration, in general, to specific strategies for introducing formal methods for software development.

Keynote speeches were presented by Lawrence Lien (USA), who spoke on his experiences transferring technology from developed to developing countries, Bernard Glasson (AUS), who spoke on work in Australia to establish a national information system and technology research and development association, and Rainer Zimmermann (D), of the European Systems and Software Initiative (ESSI), who described ESSI goals and funding strategies.

Plenary session presentations of note included two case studies. The first, by Ramiro Montalegre (USA) and Lynda Applegate (USA), addressed a study of information technology and organization change in a large sugar corporation in South America. The other, a longitudinal study by John Burton (USA) and James Brancheau (USA), described strategies for implementing a distributed information system to support field personnel.

Parallel Sessions

Parallel sessions were held in six topic areas. The first session, “Models and Theories of Software and Information Technology Transfer,” included a description of requirements for a predictable and practical technology-introduction process, from an industry representative, followed by academic approaches to understanding aspects of information technology implementation: how to better define aspects of user involvement, how to model the process in detail, and what characterizes, implementation of software process innovations. The second session, “Software Technology Implementation in Large Organizations,” presented a variety of approaches to introducing software-engineering technologies such as measurement techniques. The third session, “Experiences with University/Industry Collaboration,” presented the perspectives of university faculty, a small company, and a national research center. The fourth, “Experiences in the Transfer of Software Process Innovation,” reflected the current strong interest in the area of software process improvement. The fifth parallel session, “Organizational Mechanisms for Facilitating Technology Transfer,” presented several specific mechanisms for information or software technology transfer. These ranged from an engineering handbook and a prototype user-interface-management system to a company whose business is starting intrapreneurial technology-transfer functions in large firms. The last parallel session, “The Transfer of Formal/Engineering Methods for Software,” looked at the transfer of formal methods for software development as seen by both industry and universities.

A total of six working sessions, three each evening, addressed essentially these same topics in smaller groups. Summaries of findings from each of these sessions were presented in a final plenary session, and reports from the sessions will be included with a subset of participants’ papers and position statements and keynote papers in proceedings of the conference, published by Elsevier/North-Holland in March 1994.

Future of WG8.6

The conference concluded with discussions about the prospect of a Working Group in this area. Most participants agreed that ongoing interaction in a variety of areas would be fruitful.

The proposed scope of the WG, which emerged from both formal and informal discussions toward the end of the conference, is transfer and diffusion of information technology and software engineering technology within and between organizations. The proposed aims of the group derived from the agreement of Conference participants that there is a strong need to develop a reference model and terminology, so that there is some basis for comparison of and learning from the extensive body of existing work from both researchers and practitioners.

A steering committee, consisting of Dr. Glasson, Burt Swanson (USA), Gonzalo Leon (E), and Karlheinz Kautz (D), will support Priscilla Fowler (USA), program chair of the Conference, in preparing the formal proposal for the new WG, WG8.6. Those interested in membership should contact Ms. Fowler at seif@sei.cmu.edu or, in writing, at Software Engineering Institute Carnegie Mellon University 5000 Forbes Avenue Pittsburgh, PA 15213, U.S.A.

NEW E-MAIL ADDRESS FOR SECRETARIAT

The e-mail address for the IFIP Secretariat is now ifip@uni2a.unige.ch.

SECRETARY GENERAL cont. from p. 2

For the work concerning our future Secretariat, I have appointed a reference group for the Consultant. This group consists of G.J. Morris (GB) [IFIP secretary] and M. Tienari (SF) [an IFIP trustee].

Mr. Melbye is requested to report on these issues at the next Council meeting, where we will have a discussion of the job charter and financial justification of the position of Secretary General.

Sincerely yours,

Ashjorn Rolstad
SECURITY AND CONTROL OF IT

by Prof. Klaus Brummstein (D)*

Under the sponsorship of the IFIP Working Group on Information Technology Misuse and the Law (WG9.6), an International Working Conference on Security and Control of Information Technology in Society was held 12-17 August 1993 aboard a ship plying between Stockholm and St. Petersburg. Richard Sizer (GB) was chairman of the International Program Committee, and Ann Marie Bodor (S) and Louise Nyström (S) were chairpersons of the Organizing Committee. Attended by about 60 active participants, this event included one day at the Russian Academy of Science in St. Petersburg, full of information on the status of IT security and legislation in Russia. This day was prepared by Eldar Musaev (RUS) and Simone Fischer-Huebner (D).

With the professional interests of the participants almost equally divided between technical and legal aspects, the program aboard the ship was dominated by controversy over legal versus technical aspects. This contention was further stimulated by an introductory panel discussing the thesis “Law Cannot Help to Control IT Security.” (The thesis was rejected by a majority of those attending.)

The program’s first part was devoted to legal aspects, especially dealing with privacy. Here, a paper presented by anthropologist Rolf Lunheim (N) in cooperation with computer scientist Gottorm Sindre (N) gave several examples that privacy is rather inconsistently understood in different cultures. Such different views, even among Western participants, became evident in the presentations of some leading privacy and law experts. Here, Bieke Spruyt (B) and Bart de Schutter (B) discussed whether an international law on security of information systems is emerging; they saw needs for such standardisation.

In contrast with analyses concentrating on the legal situation, Ruud Ketelaar (NL) and Simone Fischer-Huebner (D) addressed both legal and technical aspects by arguing that some IT security mechanisms (e.g., collecting audit trails) further invade privacy and protection of personal data, thus even enlarging the legal problems. This contribution was the only one to bridge the evident gap between lawyers and technicians.

* chairman of the IFIP Technical Committee on Relationship between Computers and Society (TC9)

“Russian Day”

The “Russian Day,” held 14 August on terra firma in St. Petersburg, revealed surprising insights into the implications of the recent dramatic political changes in Russian society, especially changes related to IT security. In his introduction, “IT versus Security in Russia,” Eldar Musaev (RUS) presented examples of major incidents in Russia in recent years. Probably the most shocking one was the theft of a computer including a database of Tchernobyl victims and related statistics. Since no backup had been done, because of lack of magnetic media, this database was lost. So far, it is unclear whether the thieves were merely interested in the computer (which is the likely assumption) or were interested in the database.

Yuri Andreevich Timofeev (RUS) reported about the systematic approach being undertaken by several cooperating institutions to establishing a basic concept of IT security criteria for both IT products and systems, for government, commercial, and private applications. A Russian IT security industry is developing, accompanied by a national conference and a new Russian journal on IT security. Andrey Petrovich Kurilo (RUS) described the structure of emerging Russian IT-related legislation, associated with the present development of a new constitution, including principles of both the right for information and the right to individual privacy.

Whose Responsibility is Security?

Marshall Abrams (USA), in his distinguished way, described a “Symbiosis among IT Security Standards, Policies, and Criteria,” in which he presented both progress and demands for research in miscellaneous fields. He especially mentioned “assurance” as ill-understood, and he suggested that multiple policy models be analysed to select the most adequate one for an economic or governmental organisation’s demand. One of his conclusions about IT security policies was that “If security is everybody’s obligation, it is nobody’s obligation.” This seemed to be in contradiction with a position that Peter White (GB) presented in his paper on “Preparing System Security Policies,” that every person must behave according to her/his responsibility, rather than projecting security demands on “secure and safe” systems, including security managers.

THANKS FOR IFIP SUPPORT

The following is taken from a recent letter written to IFIP:

CLEI [Centro Latinoamericano de Estudios Informatica], the Latin American Center for Informatics, and SADIO [the Argentine Member of IFIP], the local organizer of the 19th Latin American Conference for Informatics, which was held in Buenos Aires August 2nd to 6th 1993, jointly with the 22nd Argentine Meeting of Informatics and Operations Research, are thankful for the support received. The conference was a success, with 948 attendees....The proceedings amounted to nearly 2000 pages from 118 contributed papers....The keynote speaker was Adele Goldberg (USA), whose travel was partially paid with the IFIP grant to CLEI....

Hector Monteverde
Cecilia T. de Berdichevsky

A. NICO HABERMANN

We regret to report that Professor A. Nico Habermann (USA), a world-renowned expert on programming, died of a heart attack in August at the age of 62. He was on leave from his professorship at Carnegie Mellon University (Pittsburgh, Pennsylvania) to serve as Assistant Director for Computer and Information Science and Engineering of the U.S. National Science Foundation. He was the founding dean of the CMU Computer Science school and was head of the Computer Science department from 1980 to 1988. Prof. Habermann served on the International Program Committee of IFIP Congress ‘89 as chairman of the Software Development and Maintenance stream.

Summarizing and assessing the value of this event, we note that two essential steps were taken that may produce future insights. First, the start of an information exchange between Russia and other countries was alone worth the trip to St. Petersburg. Second, the onboard Conference may be regarded as an initial step in bridging the evident gap between IT-security professionals, law experts and other fields (like sociology and anthropology). In this sense, the Conference proceedings (published by Elsevier/North-Holland) will surely form an interesting basis for future work.
The next tutorial, "Introduction to Erlang, a concurrent declarative program-
eration emerging from this and other projects," introduced a new feature to deliver its intended functionality because of unantic-
ipated behaviors of other features. An important amelioration of, or management approach to, this problem is to use formal methods to model and analyze feature logics and feature requirements, and to generate test scenarios.

Another tutorial, "LOTOS Applications in the European Software Industry" by Jeroen Schot (NL) presented recent industrial experience on the use of the LOTOS language in the development of safety-critical and communication software. It discussed practical methods for specification construction, rapid prototyping, validation and verification, and code generation emerging from this and other projects.

The next tutorial, "Introduction to Erlang" by Robert Virding (S), described Erlang, a concurrent declarative program-
matic language for efficient design of robust distributed systems. It gave several examples of how this language has been used most successfully in prototype and research projects. One application might represent the largest system in the world developed in a declarative language.

The final tutorial, "An Introduction to VDM" by Lynn Marshall (CDN), introduced VDM, a widely used formal description method based on set theory and first-order logic.

Throughout the Conference, there were demonstrations of software tools for manipulating formal descriptions of systems.

As in the past, the Conference was sponsored by the IFIP Working Group on Architecture and Protocols for Computer Networks (WG6.1). Richard Tenney (USA) was Conference chair. The Conference received support from U.S. corporations, universities, and federal agencies. This meeting marked the first time the U.S. National Science Foundation has supported the FORTE series.

The formal Conference proceedings, edited by Tenney, Paul Amer (USA), and M. Omit Uyar (USA), will soon be published by Elsevier/North-Holland as part of the IFIP Transactions series. Preliminary versions of the papers were printed and distributed at the Conference itself. In addition, the visual material for the tutorials and, in some cases, additional background information were also distributed at the Conference. These two volumes totaled over 950 pages.

Questions about FORTE’93 and requests for copies of the program, with titles and authors of the talks, may be sent by e-mail to forte@cs.umb.edu or by ordinary post to FORTE’93

Mathematics and Computer Science Dept. University of Massachusetts
Boston, MA 02125-3393, U.S.A.

In addition, an order form for the tutorial notes may be obtained by sending mail to either of the above addresses.

FORTE’94 will take place in Bern, Switzerland, October 4-7, 1994; FORTE’95 is scheduled for Montreal, Canada, October 17-20, 1995.

CORRECTION

We apologize for printing an incorrect first name for Mrs. Judy Ham-
mond (AUS), vice-chairman of TC13, in the December 1993 IFIP Newsletter.

TECHNICAL COMMITTEE CHAIRMEN

| TC2: | P.C. Poole | AUS | 89-94 |
| TC3: | P. Bollerslev | DK | 91-94 |
| TC5: | T. Mikami | J | 93-96 |
| TC6: | 0. Spaniol | D | 92-95 |
| TC7: | P. Thoof-Christensen | DK | 89-95 |
| TC8: | G.B. Davis | USA | 89-95 |
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| TC12: | R.A. Meersman | NL | 89-95 |
| TC13: | B. Shackel | GB | 89-95 |
| SG14: | J. Gruska | SK | 89-95 |
| SG15: | M. Novak | GB | 93-96 |
nine issues. The issues lie at the interfaces of selected pairs of tracks. The issues and their "Champions" are  

What Should We Build? — G. Maguire (USA)  
How Much Application Knowledge Should a Technologist Have? — B. Neumann (D)  
Utopia? or Chaos? How Should We Control Technology Development? — J. Berleur (B)  
How Much Is Safety Worth? — O. Herzog (D)  
Who Is in Control — User or Application System? — R. Clarke (AUS)  
Is Application Development Focused on Real Problems? — R. Traunmüller  
Is Technology Transfer the Answer? — S. Bhatnagar (IND)  

[Some Champions had not been designated when this IFIP Newsletter went to press. — Ed.]

The committee's intention is that every participant will  
• select an issue when he or she registers  
• learn as much as possible about the issue during the first 31/2 days of the Congress  
• spend part of a day discussing the issue in a formal setting, and developing the Action Agenda  

Action Agendas

The Action Agendas from the nine issues will be presented in plenary session on the final day of the Congress. Solutions will take the form of recommendations; they will include specification of who should take the recommended actions (e.g., vendors, academics, governments). Following the Congress, the Action Agendas will be combined to create the Congress Message, which will be disseminated appropriately.

The Congress schedule is as follows:

Monday morning — Congress keynote speeches  
Monday afternoon through Wednesday morning — track-specific topics  
Wednesday afternoon through Thursday morning — issue-specific topics  
Thursday afternoon — issue discussions (in groups of at most 50) and creation of Action Agendas  
Friday morning — presentation of Action Agendas  
Friday afternoon — closing session, including Congress Message  

The successful completion of the issues process will need the close guidance of knowledgeable and caring professionals, so Issue Champions (ICs) have been designated to coordinate the issue streams. The goal of each IC is to achieve an important and exciting Action Agenda that reflects significant insight into the nature of the issue and its resolution. To reach that goal, each IC is responsible for both the content and execution of the issue stream.

The ICs have developed Concept Guidance Documents, which describe the issues, describe the background information that participants need in order to discuss the questions, and suggest where the information will come from (issue sessions, track sessions, special sessions, reading material, etc.). The ICs are now recruiting both refereed and invited papers and speakers, arranging pre-Congress or evening tutorials, working with the track chairmen to be certain that all material that participants need in order to understand and discuss the issues will be available, providing reading material, and preparing Issue Stream Descriptions that include a list of the technical sessions and other materials participants should attend or be familiar with (these may be from any part of the Congress program, or even extra sessions).

During the Congress, the ICs will manage the issue streams. They will introduce, host, and manage the issue sessions and present the Action Agendas during the Friday morning plenary session.

The Process

The process of developing the Action Agendas is critical: time is short (around 4 hours), but the results will be significant. The participants will "learn" about the issues and discuss them at length in earlier Congress sessions. (It is important that participants understand that they must prepare themselves adequately for the discussions.) By the time of the Thursday afternoon sessions, the participants will be ready to draw conclusions. The tentative list of steps for the sessions, based on the process used for similar purposes at the ACM (U.S. Association for Computing Machinery) Critical Issues Conference in 1990, is as follows:

Introductions and instructions  
Small-group sessions to list the problems, discuss them, and prioritize them  
Large-group "voting" to define the key problems for each issue  
Small-group sessions to list solutions, discuss them, and prioritize them  
Large-group sessions to "vote" on the key solutions, which make up the Action Agendas

Discussion is primarily for explanation and clarification, since there is not time for lengthy defenses of positions. The small groups are used as a mechanism to get the group to focus quickly on its tasks and give everyone a chance to nominate problems and solutions.

More information about the Congress may be obtained from

Congress Secretariat
IFIP'94  
Congress Centrum Hamburg  
Congress Organisation  
P.O. Box 30 24 80  
D-20308 Hamburg, Germany  
fax: +49.40.3569.2343  
Telex: +212609

U.S. TRAVEL GRANTS

by Mr. Howard Funk (USA) *

The Federation on Computing in the United States (FOCUS), the U.S. Member of IFIP, has requested a grant from the U.S. National Science Foundation to provide partial travel support to U.S. participants in IFIP Congress '94. If the grant is approved, FOCUS will be able to support travel for approximately 20 attendees. Funding will be limited to a maximum of $1000 per attendee. Applicants should provide the selection committee with a current resume and relevant details of their planned Congress activities (i.e., to present a paper, to chair a session, to serve as a panel member, etc.) and/or how participation will benefit their current activities and research. Junior and minority faculty members are especially encouraged to apply.

All award recipients must be residents of the U.S., and travel must be by U.S. carriers. In addition, recipients will be required to file a brief report following the Congress, on their activities and experience at the Congress.

Individuals wishing to submit applications should contact

FOCUS Secretariat  
1730 Massachusetts Ave., NW  
Washington, DC 20036-1992, U.S.A.  
tel: 1 (202) 371-0101, fax: 1 (202) 728-9614  
e-mail (internet): grant@computer.org

* U.S. representative to IFIP, and IFIP vice-president
The 1993 IFIP General Assembly, meeting in Tokyo, approved the admission of three Full Members, representing the Czech Republic, the Slovak Republic, and Thailand, which brings the number of Full Members to 43. (The Czech and Slovak memberships replace that of Czechoslovakia.) Following are descriptions of the newly admitted societies, written by society officers.

**CZECH SOCIETY FOR CYBERNETICS AND INFORMATICS**

*by Dr. Jaroslav Dolezal (CZ)*

There is a rich history of information processing in the Czech Republic. From Prague, the capital, comes the famous legend of the Golem, an artificial man created by Rabbi Jehuda Low in the 16th century in order to defend oppressed people. He was said to be awoken to life when a magic formula (called a "scheme") was inserted into his head.

In the 1920s, the word "robot" was used for the first time in the science fiction drama *R.U.R.* by the Czech playwright Karel Capek, derived from the Czech word "robota," which means the regular forced labor of serfs. Thus "robot" denoted a human-like artificial creature. The title *R.U.R.* itself was shorthand for *Rosum's Universal Robots.* "Rosum" did not represent just the name of a person; in Czech, it denotes "reason" as well. *R.U.R.* points to the potential misuse of obedient robots, it treats ethical problems, and it searches for the delicate boundary between robots and human beings.

**Founding of CSCI**

In 1966, the Czechoslovak Society for Cybernetics was established. It offered a gathering-place for scientists and technologists interested in the problems of man-machine interaction, automation of decision-making tasks, as well as technical systems based on biological principles.

The Czech Society for Cybernetics and Informatics (CSCI), established in 1991, is a direct descendant of the Czechoslovak Society for Cybernetics. The split of Czechoslovakia on January 1, 1993, triggered the utilization of CSCI as a new national society. The former interest groups of the Czechoslovak Society for Cybernetics were completely incorporated into the CSCI structure. Today, the total number of CSCI members approaches 500; the Society thus encompasses most Czech professionals in the fields of science and technology covered by CSCI.

Since 1966, the Society has published an international scientific journal *Kybernetika.* In addition, all the activities of the CSCI are reported in the monthly *Society Bulletin,* distributed to all its members.

**Interest Groups**

The main activity of the society has been centered around its interest groups, (currently 16), which cover practically the entire area of cybernetics and informatics. Their sizes vary between 20 and 50 members. One such interest group is the Theoretical Robotics group, established in 1974 and continually organizing monthly lectures on problems of AI and robotics. Maybe because of the above historical background, this group is one of the most active within the Society. The opportunity of forming interest groups makes it possible to avoid unnecessarily founding other more specialized societies, which would encounter obvious difficulties because of their limited memberships.

Today CSCI is a member of several international bodies: the European Coordinating Committee for Artificial Intelligence (ECCAI), the International Association for Pattern Recognition (IAPR), the International Federation of Automatic Control (IFAC), and IFIP.

The Czech representative to the IFIP General Assembly is Dr. Jaroslav Dolezal, who has been a member of the IFIP Technical Committee on System Modelling and Optimization (TC7) since 1985. He is also the organizer of the next TC7 Conference on System Modelling and Optimization, taking place in Prague July 10-14, 1995. (Those interested in receiving additional information about this event can send e-mail to ifip@utia.cas.cz.).

**SLOVAK SOCIETY FOR COMPUTER SCIENCE**

*by Prof Branislav Rovan (SK)*

The Slovak Society for Computer Science (SSCS) was formally established in April 1993. It is a continuation of the former Bratislava branch of the Czechoslovak Society for Computer Science. The move to establish a separate society for Slovakia was necessitated by the split of Czechoslovakia into two independent states: the Czech Republic and the Slovak Republic. The newly formed Society has, in a strict sense, no history yet; however, its members have been active in the computer science community of Slovakia for a number of years.

Before 1989, the two dominant areas of computer science were hardware and theory. No computer science society existed. Hardware professionals found a home within the Cybernetics Society, and the theorists within the Association of Mathematicians and Physicists. Both these Societies were organized under the umbrella of the Academy of Sciences. The hardware community was forced into reverse engineering by the Communist government and fell behind the rest of the world. The theoretical community, being "hardware independent," managed to gain international recognition. One of the top European conferences in theoretical computer science, Mathematical Foundations of Computer Science (MFCS), has been organized in Slovakia every four years since 1973. The theory community was also the first to recognize the importance of software over hardware and initiated a software seminar (SOFSEM) in 1974. This unique seminar brought together computer science professionals from universities and industry for the twentieth time in 1993. It has helped to spread new theoretical ideas through the community and to keep researchers aware of practical problems.

After 1989

Following the "velvet revolution" in 1989, the Czechoslovakian Society for Computer Science was established as one of the first professional societies outside the usual Academy umbrella. The Society was organized on a regional principle, with three branches (Prague, Brno, and Bratislava), One of its first activities was providing expertise for the Ministry of Education in designing policy for introducing computers and computer science into secondary schools. The Society became the natural sponsor of the main computer science events (MFCS, SOFSEM) and started production of its *Bulletin.* The Bratislava branch of the Society played a crucial role in designing the National Program of Informatisation of Slovakia, for the Slovak government.
The Czechoslovakian Society for Computer Science started to build international relations. Joint membership agreements with U.S. societies were established.

The Future

The year 1993 brought new changes to Czechoslovakia. The division of the Federal Republic caused similar separations in professional societies. SSCS was established, based on the Bratislava Branch of the Czechoslovakian Society for Computer Science. The Czech Society for Computer Science and the Slovak Society for Computer Science agreed to keep the Czech and Slovak Society for Computer Science as a federation of the two new societies, to facilitate continuation of the cooperation in the regional activities and international contacts.

The present activities of SSCS are aimed at building the structure of the new organisation, with the election of new officers, including Igor Privara as president, who is also the Slovak representative to the IFIP General Assembly. We hope to overcome the general decrease in activity noticeable in all professional societies in Slovakia caused by the loss of hope for fast recovery from the misery of the past years.

The present base of 52 individual members and 5 institutional members is modest but covers the main computer science centres in Slovakia reasonably well and includes renowned Slovak computer scientists. Increasing the membership base is one of the top priorities of the Society. The Society plans to continue to support and organise seminars and conferences. It is currently working on establishing information flow to its members.

SSCS plans to form Special Interest Groups corresponding to the Technical Committees (TCs) of IFIP. Each of these SIGs will select a representative to the corresponding IFIP TC. A committee formed of these representatives will be responsible for the relationship with IFIP. All this is expected to take some time. Special attention will be paid to ensuring proper involvement of the membership of other professional societies in Slovakia whose professional orientation overlaps that of IFIP (e.g., the Slovak Society for Cybernetics and Informatics).

The Thai Federation for Information Processing (TFIP) was founded in 1982, when the National Registrar of Organizations, a unit of the government of Thailand, granted permission to Prof. Dr. Srisakdi Charmonman to establish the Federation. The number of members at that time was 179 individual members and 3 institutional members, which has increased to 1,319 individual members and 21 institutional members.

One of the purposes of establishing TFIP was to become a member of IFIP. Before TFIP sent an application to IFIP, however, SEARCC (the South East Asia Regional Computer Confederation) became a member. Since Thailand was a member of SEARCC, TFIP did not apply to IFIP at that time; when SEARCC withdrew from IFIP (in January 1992), TFIP decided to apply.

The purposes of TFIP are

- to promote education, research, and applications of information processing technology, including, but not limited to the areas of data processing equipment, management concepts, and data processing personnel.
- to disseminate information processing knowledge to governmental agencies, governmental enterprises, and private companies, as well as to the general public, students, and all other parties interested in information processing.
- to exchange knowledge and experience in information processing with organizations and learned societies, both in Thailand and abroad.

TFIP has organized national and international conferences. For example, in 1982, jointly with the Ministry of Science, it organized the National Seminar on Computers, presided over by H.R.H. Princess Maha Chakri Sirindhorn; and in 1993, it organized the International Conference on Expert System Technology and Applications, in cooperation with the Thailand chapter of the ACM (U.S. Association for Computing Machinery) and the Thailand chapter of the Computer Society of the IEEE (U.S. Institute of Electrical and Electronics Engineers). Also, in 1987, jointly with IDRC and UNCTC (the Canadian International Development Centre, and the United Nations Centre on Transnational Corporations), TFIP organized the Regional Conference on Transborder Data Flow.

TFIP also provides speakers requested by various government agencies, private companies, and educational institutions. Starting in 1993, TFIP has been organizing monthly seminars conducted by international experts. Some lecture topics in 1993 were Enterprise-Wide Area Networks, Fuzzy Logic, Neural Computing, Computer-Integrated Manufacturing, and Internetworking. TFIP has a policy of holding one international conference in Thailand each year. The one near the end of 1994 will be “Worldwide Computer Internetworking through the Internet.”

In the past, TFIP contributed news and technical papers to local periodicals; starting in 1993, TFIP, with the local ACM and IEEE chapters, has been publishing its own International Journal of Computer and Engineering Management, three times a year.

AIMS AND SCOPES continued from p. 3

AIM: To explore the use of knowledge modeling techniques (knowledge structuring, knowledge acquisition, knowledge explanation) for general application-program development.

SCOPE:

- conceptual frameworks for application-program specification and design based on structured knowledge models
- implications on reusability and development of application programs by non-programmers
- corporate knowledge management
- relationships with current approaches and life cycles for development and formulation of application programs in conventional software engineering and information-systems engineering
- new knowledge-based user interfaces for development, explanation and operation of systems supported by this concept of application-program structure
- standards for knowledge transfer
- integration of AI software and systems with conventional databases, programming languages, and operating systems
- related research issues to support the previous concepts, such as knowledge acquisition, learning, validation and implementation techniques
The third symposium on Network Information Processing Systems was held from 12 to 14 October 1993 in Sofia, Bulgaria. It was organized by the Bulgarian Academy of Sciences (BAS), under the auspices of the Technical Committee on Communication Systems (TC6) of IFIP and the sponsorship of the Commission of the European Communities and the Union of Bulgarian Scientists (UBS).

The Symposium was opened by the President of the Committee of Post and Telecommunications of Bulgaria, Prof. Venko Markov. A welcoming address on behalf of TC6 was presented by Mr. Trevor Housley (AUS), vice-chairman of TC6, and Prof. Luben Dolapchiev welcomed the participants on behalf of the UBS.

More than 150 delegates from 18 countries closely followed the keynote speech, "New Communication Services in a Competitive Environment — the European Situation," delivered by Dr. Louis Pouzin (F), a former chairman of TC6. After his speech, Dr. Pouzin was awarded an honors diploma and the "Marin Drinov" medal of the Bulgarian Academy of Sciences for his introduction of the datagram method in package commutation in computer networks, for his great service in their implementation worldwide, and for his contribution to scientific cooperation between Bulgarian and French institutes and scientists.

The symposium was dedicated to the application of computer networks for information processing and to the methods of analysis and synthesis for new architectures and hardware and software tools. Seven invited lectures were delivered by eminent scholars, and 24 papers were delivered on distributed systems, protocols for data communication, traffic control, performance evaluation, local networks (which have recently become more and more widespread), new types of services available to the users by means of telephone lines, databases, and high-speed networks. Certain questions connected with the architecture and the development of integrated services digital network (ISDN) were also considered.

The symposium was declared closed by the chairman of the Program Committee, Prof. Kiril Boyanov (BG).

After the Symposium, on 15 and 16 October, the annual meeting of TC6 was held. Representatives of 21 countries participated. Mr. Tibor Szentivanyi (H) was awarded a special present in connection with the termination of his activity in TC6, because of his retirement, and for his 21 years of fruitful work in the TC.

The panel discussion chaired by Prof. Otto Spaniol (D), TC6 chairman, on "Networks and Telecommunications in EEC — Problems and Strategy" evoked special interest. It was noted that several approaches exist for approving telecommunications, but all the participants agreed on the priority of activities in the following order: creation of joint ventures with Western European companies, increasing investments, including the participation of European and international companies, and consolidating local industry.

The conference on Informatics and Changes in Learning. The Conference, sponsored by the Working Groups on Informatics Education at the Secondary Level (WG3.1) and Informatics in Elementary Education (WG3.5) of the Technical Committee on Education (TC3), was held in Gmunden, Austria, 7-11 June. It focused on teaching and learning in a rapidly changing world. In the past decade, significant changes in learning have been predicted, based on the increased availability of interactive and dynamic information processing tools. The degree to which these predictions have become reality, the effects, and future trends, were represented in the major themes of the Conference:

• changes in society affecting learning
• equity in learning
• flexible learning environments
• interactive learning and the changing role of the teacher
• learning about dynamic systems (frequently by way of simulation)
• policies for change

The Austrian presentations were the "winners" of a competition run throughout Austria, and represented some of the best and most exciting projects taking place in the schools. The schools represented also had exhibition stands, where Conference delegates could discuss the projects with the students who had been involved and could try out the various applications. A compact disc describing all the demonstrations was available on request.

It is difficult, if not impossible, to summarise the lasting impressions from the wealth of ideas that were discussed at the Conference. The enthusiasm and commitment of the speakers, who had advanced the use of computers in the world of education, were certainly impressive.

The panel discussion chaired by Prof. Otto Spaniol (D), TC6 chairman, on "Networks and Telecommunications in EEC — Problems and Strategy" evoked special interest. It was noted that several approaches exist for approving telecommunications, but all the participants agreed on the priority of activities in the following order: creation of joint ventures with Western European companies, increasing investments, including the participation of European and international companies, and consolidating local industry.

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INFORMATICS AND CHANGES IN LEARNING

by Mr. Brian Samways (GB)

The Conference included 6 keynote presentations, 6 panel discussions (one on each theme), several demonstrations, over 100 paper presentations, and an "Austrian Day," to promote the sharing of experiences and ideas between the international participants and the Austrian teachers and pupils.

The Austrian presentations were the "winners" of a competition run throughout Austria, and represented some of the best and most exciting projects taking place in the schools. The schools represented also had exhibition stands, where Conference delegates could discuss the projects with the students who had been involved and could try out the various applications. A compact disc describing all the demonstrations was available on request.

It is difficult, if not impossible, to summarise the lasting impressions from the wealth of ideas that were discussed at the Conference. The enthusiasm and commitment of the speakers, who had advanced the use of computers in the world of education, were certainly impressive.

Also clear, however, was the disillusionment of some delegates with the many failed fads and fashions of the past two decades. But failures were often linked to mistakes of implementation rather than to errors of principle. In any of the major areas of software development — word processing, microworlds, spreadsheets, computation, simulation, multimedia, telematics — the specialist's enthusiasm for the good idea can cause him to ignore the essential process of change that ordinary teachers must undergo if best practice is to find a place in common use.

Teacher training emerged as the vital issue for the future, with initial training highlighted as being in need of the most reform. Unless the professional development of teachers includes the use of computers as a natural component of the art of learning, classroom practice will not change.

Perhaps the real impact will come when the personal and portable computer is re-
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MARCH 1994
The IFIP Working Group on Social Implications of Computers in Developing Countries (WG9.4) is planning an international conference on Information Technology and Socio-Economic Development: Challenges and Opportunities. It will be held 9-11 January 1995 in Cairo, Egypt, and will be co-hosted by the Regional Information Technology and Software Engineering Centre of Cairo.

The potential of information technology (IT) in improving public administration and increasing industrial competitiveness is recognized, but its widespread use is still a distant goal. It is at this stage, when developing countries are making increasing investments in IT, that there is need to understand the factors that will promote its effective utilization. There is very little in the way of a body of knowledge or documented practice to guide trainers, educators, and practitioners in planning and implementing IT projects. Both failures and successes of IT applications must be examined and documented. By and large, documents on IT applications in developing countries tend to highlight positive aspects and ignore negative impacts. This Conference is being organized to bring together and critically examine experiences from a number of developing countries, which have much to learn from each other’s experiences.

There will be no registration fee for overseas participants. Authors from developing countries will be provided free hotel accommodation by the Conference organizers. Further details may be obtained from the WG9.4 Chair:

Prof. S. C. Bhatnagar
IIM
Ahmedabad 380015, India
fax: 91-272-427896
e-mail: subhash@iimand.ernet.in

* reprinted from the WG9.4 Newsletter

**From 29 March to 2 April 1993, IFIP's Working Group on System Implementation Languages (WG2.4) held an "autumn school" on Systems Programming: Languages and Applications, in Pretoria, South Africa. A distinguished faculty of 19 experts from around the world conducted seminars, workshops, tutorials, and lectures for 150 participants (some for only one day, some for all 5 days).

The IFIP African Autumn School was born out of a desire on the part of members of WG2.4 to increase the flow of technology to developing countries. After many years, the two South African members of the WG were successful in inviting the WG to meet in Africa, and the School is a follow-up from that meeting. It was decided to present courses that would be both commercially attractive and acceptable at the university level. The resulting mix of quarter-day seminars and one- or two-day tutorials enabled both industrialists and students to gain the maximum benefits from the expertise present at the school.

Fees were kept very low to encourage a large attendance. Although an attempt was made to fund the event through fees from industry, this was not accomplished. The South African Department of National Education, however, provided substantial support. Speakers’ expenses took the lion’s share (43%) of the budget, although these expenses were not met in full. Funds from IFIP were used to assist three academics from Zimbabwe and Malawi and four local participants to attend. The proceedings were thrifty produced in 11 separate books and distributed only to those registered for the corresponding streams; however, many requests for additional copies were received.

- **Prof. Judy Bishop (ZA)**, a member of WG2.4, was chairman of the Organizing Committee for the Autumn School.

NEW INFORMATION BULLETIN AVAILABLE

The 25th edition of the IFIP Information Bulletin was printed in January and has been distributed to all IFIP participants. All new appointments and changes of address can be found there.

On Line IFIP Database

All readers are reminded that a database of IFIP information (including this Newsletter) is now available through international computer networks. Access is possible via ftp from the repository at software.watson.ibm.com and via ordinary e-mail from the listserv@cern.bitnet repository. In addition, the database can be accessed through Gopher. An article giving details of how to access the database can be found on page 10 of the March 1993 IFIP Newsletter or requested from the IFIP Secretariat.

Member societies of IFIP are urged to bring the IFIP database to the attention of their members.

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**National Abbreviations Used in Newsletter**

- **A**ustria
- **AU**S Australia
- **B**elgium
- **BG** Bulgaria
- **CDN** Canada
- **CH** Switzerland
- **CZ** Czech Republic
- **D**eutschland
- **DK** Denmark
- **E** Spain
- **GB** United Kingdom
- **H**ungary
- **IND** India
- **I**reland
- **J**apan
- **N**orway
- **NL** The Netherlands
- **RUS** Russia
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papers due: 14 Mar 94

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e-mail: SeaComm94@mya020l.wins.icl.co.uk

Eighth IFIP WG5.6 Intl. Conf. on Computer Applications in Shipbuilding — ICCAS’94
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contact: Chairman
SEACOMM’94 Programme Committee
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59700 Kuala Lumpur, Malaysia
tel: 60-777-7026
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30 Dec 94-2 Jan 95, Madrid, Spain
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IFIP WG6.1 Intl. Conf. on Formal Description Techniques for Distributed Systems and Communications Protocols — FORTE’94
4-7 Oct 94, Bern, Switzerland
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tel: +41 31 631 4994
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(Stefan Leue, conf. organization chairperson)
e-mail: forte94@um.unibe.ch

Fifth IFIP TC5 Intl. Conf. on Computer Applications in Production and Engineering — CAPE’95
16-18 May 95, Beijing, China
extended abstracts due: 30 Jun 94

contact: Prof. Zesheng Tang
Computer Dept.
Tsinghua Univ.
Beijing, 100084, China
fax: 86.1.2596768

Fourth IFIP WG6.6 Intl. Symp. on Integrated Network Management — ISINM’95
2-6 Apr 95, Santa Barbara, CA, U.S.A.
papers due: 1 Jul 94

contact: Prof. A. Anbalagan Sethi
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Univ. of Delaware
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Prof. Yves Raynaud
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118 route de Narbonne
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Sixth IFIP World Conf. on Computers in Education
23-28 Jul 95, Birmingham, U.K.
papers due: 31 Jul 94

contact: WCCE/95
Margaret St.
Birmingham B3 2BW, U.K.
tel: 44+(0)21-428 1258, fax: 44+(0)21-428 2246

Seventeenth IFIP Conf. on System Modelling and Optimization
10-14 Jul 95, Prague, The Czech Republic
extended abstracts due: 15 Oct 94

contact: IFIP’95 Conference
Attn. Dr. J. Dolezal
Institute of Information Theory and Automation
P.O. Box 18
14800 Prague 18, Czech Republic

telec: 41-21062 ITM IN

FUTURE IFIP MEETINGS

GENERAL ASSEMBLY AND COUNCIL (and related meetings)

Council
28 Feb-3 Mar 94 (Mon.-Thurs.)
3-6 Sep 94 (Sat.-Tues.)
22, 29, 30 Jul 95 (with WCCE ’95)
26 Jun-1 Jul 94 (with conf.)
24-25 Apr 94
23-24 May 95 (conf.)
17 Dec 94
8-12 May 94 (conf.)
26-28 Sep 94 (conf.)
15 Aug 94 (conf.)
9 Dec 95
late Jan 95 (conf.)
late Jan 95
27-28 Aug 94
Jun 94 (tent.)
4-6 Mar 94
28-30 Oct 94
Mar 94 (under study)
18-20 May 94 (with conf.)
Jan/Feb 95
21-22 May 94 (prior to IFIP/SEC’94)
28 May 94 (with conf.)
Nov 94 (with workshop)
Apr 94
Jul 94
Sept 94
Brussels, Belgium
Hamburg, Germany
Canberra, Australia
Vienna, Austria, or Budapest, Hungary

Hamburg, Germany
Szeged, Hungary
Boston, MA, U.S.A.
Calgary, Alberta, Canada
Hamburg, Germany
Geneva, Switzerland
Birmingham, U.K.
Barcelona, Spain
Philadelphia, PA, U.S.A.
Funehal, Madeira Islands, Portugal
Malaysia
Duban, South Africa
turkey
Hawaii, U.S.A.
prague, Czech Republic
Queensland, Australia
Maastricht, the Netherlands
Ann Arbor, MI, U.S.A.
Amsterdam, the Netherlands
San Sebastian, Spain
Delft, the Netherlands
Australia
hamburg
Australia
Delft, the Netherlands
Hamburg, Germany
Amsterdam, the Netherlands
Copenhagen, Denmark
Bratislava, Slovakia
Bergen an Zee, the Netherlands
South Africa
Niagara Falls, Ontario, Canada
Austin, TX, U.S.A.
Melbourne, Australia
California, U.S.A.
Curacao, Netherlands Antilles
near Bonn, Germany
Mexico City, Mexico
Catania, Sicily, Italy
New Jersey, U.S.A.
Hamburg, Germany

TECHNICAL COMMITTEE AND WORKING GROUP MEETINGS*

TC2 26 Aug 94
WC2.1 Sep 94
WC2.2 6-10 Jun 94 (with conf.)
WC2.3 same
WC2.4 23-27 May 94
WC2.9 27-31 Jul 94
22 Jan 95
WC3.1 29, 30 Jul 95 (with WCCE ’95)
WC3.2 Oct 94 (tent.)
WC3.3 26-30 Jun 94 (with conf.)
TC6 22-25 Apr 94
7-8 Oct 94 (with SEACOMM conf.)
23-24 Mar 95 (with conf.)
95 (under study)
96 (under study)
17 Dec 94
8-12 May 94 (conf.)
26-28 Sep 94 (conf.)
15 Aug 94 (conf.)
9 Dec 95
6-8 Sep 94 (conf.)
late Jan 95 (conf.)
May 94
Aug 94
May 94
late Jan 95
27-28 Aug 94
23-24 Jul 94 (tent.)
Jun 94 (tent.)
4-6 Mar 94
28-30 Oct 94
Mar 94 (under study)
18-20 May 94 (with conf.)
Jun 94
Jan/Feb 95
Jun 95
21-22 May 94 (prior to IFIP/SEC’94)
28 May 94 (with conf.)
Nov 94 (with workshop)
Apr 94
Jul 94

* Some meetings are scheduled in conjunction with Working Conferences, for which the conference dates are listed.

Will TC and WG chairmen kindly keep the Secretariat advised of the dates and locations of their future administrative meetings and also send a copy of the minutes to the Secretariat.

Fourth IFIP WG6.6 Intl. Symp. on Integrated Network Management — ISINM’95
2-6 Apr 95, Santa Barbara, CA, U.S.A.
papers due: 1 Jul 94

contact: Prof. A. Anbalagan Sethi
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Toulouse 31062, France
e-mail: raynaud@irit.fr

Sixth IFIP World Conf. on Computers in Education
23-28 Jul 95, Birmingham, U.K.
papers due: 31 Jul 94

contact: WCCE/95
Margaret St.
Birmingham B3 2BW, U.K.
tel: 44+(0)21-428 1258, fax: 44+(0)21-428 2246
<table>
<thead>
<tr>
<th>Event</th>
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<th>Location</th>
<th>Sponsored by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workshop on Computer-Based Environmental Education</td>
<td>25-26 Aug 94</td>
<td>Hamburg, Germany</td>
<td>IFIP WG5.1 I GI</td>
</tr>
<tr>
<td>IFIP Congress ’98 — Thirteenth World Computer Congress</td>
<td>28 Aug-2 Sep 94</td>
<td>Hamburg, Germany</td>
<td>IFIP</td>
</tr>
<tr>
<td>Eighth Intl. Conf. on Computer Applications in Shipbuilding — ICCAS’94</td>
<td>5-9 Sep 94</td>
<td>Bremen, Germany</td>
<td>IFIP WG5.6 et al.</td>
</tr>
<tr>
<td>Work. Conf. on Decision Support and Organizational Transformation</td>
<td>6-8 Sep 94</td>
<td>San Sebastian, Spain</td>
<td>IFIP WG8.3</td>
</tr>
<tr>
<td>Symp. on Robot Control — SYROCO’94</td>
<td>19-21 Sep 94</td>
<td>Capri, Italy</td>
<td>IFAC/IFIP WG7.6, IMACS</td>
</tr>
<tr>
<td>European Conf. on Design Automation — EURO-DAC’94 (with EURO-VHDL’94)</td>
<td>19-23 Sep 94</td>
<td>Grenoble, France</td>
<td>GI, IFIP WG10.5, et al.</td>
</tr>
<tr>
<td>Work. Conf. on Comparative Review of Information Systems Methodologies Revisited — CRIS’94</td>
<td>26-28 Sep 94</td>
<td>Maastricht, Netherlands</td>
<td>IFIP WG8.1</td>
</tr>
<tr>
<td>Work. Conf. on Expert Systems in Computer Integrated Manufacturing</td>
<td>3-5 Oct 96</td>
<td>Kiev, Ukraine</td>
<td>IFIP WG5.3</td>
</tr>
<tr>
<td>Third Intl. Workshop on Hardware/Software Codesign — Codes/CASHE’94</td>
<td>4-6 Oct 94</td>
<td>Kuala Lumpur, Malaysia</td>
<td>IFIP TC6</td>
</tr>
<tr>
<td>Work. Conf. on Mathematical and Scientific Computing: Interfaces in and Integration of Scientific Environments</td>
<td>4-7 Oct 94</td>
<td>Bern, Switzerland</td>
<td>IFIP WG6.1 ACM SIGCOMM IEEE Comp. Soc. (appr. pend.)</td>
</tr>
<tr>
<td>Second Symposium on Artificial Intelligence in Real Time Control</td>
<td>10-11 Oct 94</td>
<td>Toulouse, France</td>
<td>IFIP WG6.6 IEEE CNOM</td>
</tr>
<tr>
<td>Conf. on South East Asia Communications ’94 — SEACOMM ’94</td>
<td>27-30 Oct 94</td>
<td>Nantes, France</td>
<td>IFIP WG3.6</td>
</tr>
<tr>
<td>Intl. Conf. on Formal Description Techniques for Distributed Systems and Communications Protocols — FORTE’94</td>
<td>? Oct 94</td>
<td>Barcelona, Spain</td>
<td>IFIP WG3.1</td>
</tr>
<tr>
<td>Fifth Intl. Workshop on Distributed Systems: Operations and Management — DSOM’94</td>
<td>? Oct 94</td>
<td>Jalta, Russia</td>
<td>IFIP WG7.7</td>
</tr>
<tr>
<td>Work. Conf. on ISON in Distance Education</td>
<td>9-11 Jan 95</td>
<td>Cairo, Egypt</td>
<td>IFIP WG9.4 et al.</td>
</tr>
<tr>
<td>Workshop on Large Scale Stochastic Programs: Applications and Solutions</td>
<td>? Dec 94-2 Jan 95</td>
<td>Madras, India</td>
<td>IFIP TC6/WG6.1 et al.</td>
</tr>
<tr>
<td>Seventh Intl. Workshop on Protocol Test Systems — IWPTS’94</td>
<td>8-10 Nov 94</td>
<td>Tokyo, Japan</td>
<td>IFIP WG6.4</td>
</tr>
<tr>
<td>Fourth Intl. Conf. on Local and Metropolitan Communication Systems: LAN &amp; MAN — LAN&amp;MAN’94</td>
<td>10-11 Dec 94</td>
<td>Kyoto, Japan</td>
<td>IFIP TCP</td>
</tr>
<tr>
<td>Fifteenth Intl. Conf. on Information Systems — ICIS ’94</td>
<td>15-17 Dec 94</td>
<td>Vancouver, B.C., Canada</td>
<td>IFIP TC8</td>
</tr>
<tr>
<td>Work. Conf. on Change-Point Detection</td>
<td>30 Dec 94-2 Jan 95</td>
<td>Vilnius, Lithuania</td>
<td>IFIP TC5 et al.</td>
</tr>
<tr>
<td>Work. Conf. on Information Technology and Socio-Economic Development: Challenges, Opportunities, and Actions</td>
<td>9-11 May 95</td>
<td>Cape Town, South Africa</td>
<td>IFIP TC6/WG6.1 et al.</td>
</tr>
<tr>
<td>Fourth Intl. Symp. on Integrated Network Management — ISINM’95</td>
<td>16-18 May 95</td>
<td>Beijing, China</td>
<td>IFIP TC5</td>
</tr>
<tr>
<td>Eleventh Intl. Open Conf. on Computer Security — IFIP/SEC’95</td>
<td>23-28 Jul 95</td>
<td>Vancouver, B.C., Canada</td>
<td>IMIA</td>
</tr>
<tr>
<td>Fifth Intl. Conf. on Computer Applications in Production and Engineering — CAPE’95</td>
<td>29 Aug-1 Sep 95</td>
<td>Makuhari, Chiba, Japan</td>
<td>IFIP TC5 et al.</td>
</tr>
<tr>
<td>Workshop on Stochastic Methods and Global Optimization</td>
<td>12-15 Jun 95</td>
<td>Vilnius, Lithuania</td>
<td>IFIP TC5 et al.</td>
</tr>
<tr>
<td>Fifth Intl. Conf. on Human-Computer Interaction — INTERACT’95</td>
<td>25-29 Jun 95</td>
<td>Lillehammer, Norway</td>
<td>IFIP TC13</td>
</tr>
<tr>
<td>Seventeenth Conf. on System Modelling and Optimisation</td>
<td>10-14 Jul 95</td>
<td>Prague, Czech Republic</td>
<td>IFIP TC7</td>
</tr>
<tr>
<td>World Conf. on Computers in Education — WCCE ’95</td>
<td>23-28 Jul 95</td>
<td>Birmingham, U.K.</td>
<td>IFIP TC3 BCS</td>
</tr>
<tr>
<td>Eighth IMIA World Congress on Medical Informatics — MEDINFO’95</td>
<td>23-28 Jul 95</td>
<td>Vancouver, B.C., Canada</td>
<td>IMIA</td>
</tr>
<tr>
<td>Eighth Intl. Conf. on Very Large Scale Integration — VLSI’95</td>
<td>29 Aug-1 Sep 95</td>
<td>Makuhari, Chiba, Japan</td>
<td>IFIP TC5 et al.</td>
</tr>
<tr>
<td>Intl. Conf. on Computer Hardware Description Languages and Their Applications — CHDL’95</td>
<td>? Aug 95</td>
<td>Tokyo, Japan</td>
<td>IFIP WG10.2</td>
</tr>
<tr>
<td>Work. Conf. on Approximations and Applications in Stochastic Programming</td>
<td>? 95</td>
<td>Tallinn, Estonia</td>
<td>IFIP WG7.7 IIASA</td>
</tr>
<tr>
<td>IFIP Congress ’96 — Fourteenth World Computer Congress</td>
<td>2-6 Sep 96</td>
<td>Canberra, Australia</td>
<td>IFIP</td>
</tr>
<tr>
<td>Thirteenth IFAC World Congress ’96</td>
<td>23-29 Aug 98</td>
<td>San Francisco, CA, U.S.A.</td>
<td>IFAC</td>
</tr>
</tbody>
</table>

Please see page 14 for schedule of IFIP administrative meetings. The IFIP Secretariat can furnish details of most of the events listed.
## CALENDAR OF EVENTS

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<tr>
<th>Event</th>
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<th>Location</th>
<th>Sponsored by</th>
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<tbody>
<tr>
<td>Second Intl. Conf. on Broadband Communication '94</td>
<td>2-4 Mar 94</td>
<td>Paris, France</td>
<td>IFIP TC6</td>
</tr>
<tr>
<td>Work. Conf. on The Impact of Information Technology from Practice to Curriculum</td>
<td>15-18 Mar 94</td>
<td>Neve-Ilan, Israel</td>
<td>IFIP WG3.2, WG9.5, IPA</td>
</tr>
<tr>
<td>Conf. on Evaluation of Production Management Methods</td>
<td>21-24 Mar 94</td>
<td>Porto Alegre/Gramado, Brazil</td>
<td>IFIP WG5.7</td>
</tr>
<tr>
<td>Second Intl. Work. Conf. on Compiler Construction — CC'94</td>
<td>7-9 Apr 94</td>
<td>Edinburgh, U.K.</td>
<td>IEE CAAP/ESOP, IFIP WG2.4</td>
</tr>
<tr>
<td>Second VHDL Forum for CAD in Europe — VFE</td>
<td>17-20 Apr 94</td>
<td>Tremezzo, Lago di Como, Italy</td>
<td>IFIP WG10.2/10.5</td>
</tr>
<tr>
<td>Intl. Conf. on Information Networks and Data Communications — INDC'94</td>
<td>18-21 Apr 94</td>
<td>Funchal (Madeira Isl.), Portugal</td>
<td>IFIP TC6, API, ICC</td>
</tr>
<tr>
<td>Intl. Conf. on Applications in Parallel and Distributed Computing</td>
<td>18-22 Apr 94</td>
<td>Caracas, Venezuela</td>
<td>IFIP WG10.3</td>
</tr>
<tr>
<td>Seventh Intl. Conf. on Modelling Techniques and Tools for</td>
<td>4-6 May 94</td>
<td>Vienna, Austria</td>
<td>IFIP TC6, WG7.3, 10.3, 10.4, et al.</td>
</tr>
<tr>
<td>Computer Performance Evaluation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work. Conf. on Information Systems Integration — TC8AUS</td>
<td>8-12 May 94</td>
<td>Gold Coast, Queensland, Australia</td>
<td>IFIP TC8 and WGs, ACS</td>
</tr>
<tr>
<td>Tenth Intl. Conf. on Information Security — IFIP/SEC’94</td>
<td>23-27 May 94</td>
<td>Curacao, Netherlands Antilles</td>
<td>IFIP TG6.5</td>
</tr>
<tr>
<td>Intl. Conf. on Feature Modeling and Recognition in Advanced CAD/CAM Systems</td>
<td>24-26 May 94</td>
<td>Valenciennes, France</td>
<td>IFIP TC5 &amp; WG5.3, AFCET, CNRS</td>
</tr>
<tr>
<td>Work. Conf. on Optimization-Based Computer-Aided Modelling and Design</td>
<td>24-26 May 94</td>
<td>Prague, Czech Republic</td>
<td>IFIP WG7.6 et al.</td>
</tr>
<tr>
<td>Work. Conf. on Upper Layer Protocols, Architectures, and Applications — ULPAA '94</td>
<td>1-3 Jun 94</td>
<td>Barcelona, Spain</td>
<td>IFIP WG6.5</td>
</tr>
<tr>
<td>Work. Conf. on Programming Concepts, Methods and Calculi — PROCOMET'94</td>
<td>6-10 Jun 94</td>
<td>San Miniato, Italy</td>
<td>IFIP TC2 WG2.1-3</td>
</tr>
<tr>
<td>Workshop on Benchmarking — Theory and Practice</td>
<td>16-18 Jun 94</td>
<td>Trondheim, Norway</td>
<td>IFIP WG5.7</td>
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<tr>
<td>Workshop on Intelligent Manufacturing Systems-</td>
<td>22-24 Jun 94</td>
<td>Vienna, Austria</td>
<td>IFAC IFIP WG5.3 IFORS et al.</td>
</tr>
<tr>
<td>Nineteenth Workshop on Real Time Programming — WRTP'94</td>
<td>22-24 Jun 94</td>
<td>Isle of Reichenau, Germany</td>
<td>IFAC IFIP WG5.4</td>
</tr>
<tr>
<td>Fourth Intl. Workshop on Design Automation</td>
<td>26-29 Jun 94</td>
<td>Moscow, Russia</td>
<td>E.C., Russian Acad. Sci.</td>
</tr>
<tr>
<td>Fifth Work. Conf. on High Performance Networking — HPN'94</td>
<td>27 Jun-1 Jul 94</td>
<td>Grenoble, France</td>
<td>IFIP WG6.4</td>
</tr>
<tr>
<td>Second Work. Conf. on Reconstituting OIKOS: Home-Oriented Informatics, Telematics and Automatics — HOIT-2</td>
<td>27 Jun-1 Jul 94</td>
<td>Copenhagen, Denmark</td>
<td>IFIP WG5.3</td>
</tr>
<tr>
<td>Conf. on Asia Pacific Information Technology in Training'and Education — APITITE'94</td>
<td>28 Jun-2 Jul 94</td>
<td>Brisbane, Australia</td>
<td>ACS, IFIP TC3, et al.</td>
</tr>
<tr>
<td>Fifth Conf. on Women, Work and Computerization — WWCS’94</td>
<td>2-5 Jul 94</td>
<td>Manchester, U.K.</td>
<td>IFIP WG9.1 et al.</td>
</tr>
<tr>
<td>Work. Conf. on Interactive Multimedia in University Education:</td>
<td>6-8 Jul 94</td>
<td>Melbourne, Australia</td>
<td>IFIP WG9.1 et al.</td>
</tr>
<tr>
<td>Designation for Changes in Teaching and Learning</td>
<td></td>
<td>TV</td>
<td>IFIP WG3.2</td>
</tr>
<tr>
<td>IMACS World Congress '94</td>
<td>11-15 Jul 94</td>
<td>Atlanta, GA, U.S.A.</td>
<td>IMACS</td>
</tr>
<tr>
<td>Fourth Intl. Workshop on Protocols for High-Speed Networks — PHSN'94</td>
<td>10-12 Aug 94</td>
<td>Vancouver, Canada</td>
<td>IFIP WG6.1</td>
</tr>
<tr>
<td>Work. Conf. on Information Technology and New Emergent Forms of Organizations</td>
<td>11-13 Aug 94</td>
<td>Ann Arbor, MI, U.S.A.</td>
<td>IFIP WG6.1</td>
</tr>
<tr>
<td>Eighth Work. Conf. on Database Security</td>
<td>23-26 Aug 94</td>
<td>Hildesheim, Germany</td>
<td>IFIP WG11.3</td>
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<tr>
<td>Intl. Work. Conf. on Parallel Architectures and Compilation Techniques — PACT’94</td>
<td>24-26 Aug 94</td>
<td>Montreal, Canada</td>
<td>IFIP WG10.3, ACM, SIGARCH</td>
</tr>
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